



Commonwealth of Massachusetts  
Executive Office of Energy and Environmental Affairs  
Toxics Use Reduction Administrative Council

## Designating Higher and Lower Hazard Chemicals in Massachusetts: Q&A

*In October 2007, the Massachusetts Toxics Use Reduction Administrative Council (Council), which coordinates implementation of the Toxics Use Reduction Act (TURA), voted to designate three chemicals as higher hazard substances: trichloroethylene (TCE), cadmium, and cadmium compounds. In March 2008, the Council voted to designate three chemicals as lower hazard substances: isobutyl alcohol, sec-butyl alcohol, and n-butyl alcohol. To date, the Science Advisory Board (SAB) has recommended 11 substances to be considered for designation as higher hazard substances, and another 11 for lower hazard designation. In the coming years, the Council will assess the hazard potential of many additional chemicals. This Q&A addresses the designation process and its implications for Massachusetts industry.*

### What's New in the TURA Amendments?

Enacted in 1989, the highly successful TURA program has helped Massachusetts businesses reduce toxics use by 41% and resulting waste byproducts by 65% (measured on a production-adjusted basis for TURA industry sectors). The 2006 TURA amendments built on the program's success by focusing attention on reducing the use of higher hazard chemicals and encouraging businesses to enhance environmental performance through preparation of resource conservation plans and the implementation of environmental management systems. The amendments also streamlined reporting and planning requirements. In addition, the amendments required the TURA program to differentiate toxics according to hazard level.

### What is the Administrative Council's Role in Designations?

The amendments direct the Administrative Council, in consultation with the Toxics Use Reduction Institute (TURI) and its Science Advisory Board (SAB), to review the list of reportable chemicals and to designate chemicals as higher hazard substances, lower hazard substances, or to leave chemicals uncategorized. Designation as a higher hazard substance lowers the reporting threshold to 1,000 pounds. Persistent, bio-accumulative, and toxic (PBT) chemicals are automatically designated as higher hazard substances and already have reporting thresholds lower than 1,000 pounds as established by the U.S. Environmental Protection Agency. Designation as a lower hazard substance does not affect reporting thresholds, but eliminates the toxics use fee for the chemical. The Council may designate no more than 10 chemicals as higher hazard substances or 10 chemicals as lower hazard substances in any calendar year.

### Who will be Affected by Higher Hazard Designations?

Any facility that uses **1,000 pounds or more** of a higher hazard substance (e.g., TCE, cadmium, or cadmium compounds beginning in calendar year 2008) is now subject to TURA review if the facility also employs the equivalent of 10 or more full-time employees and conducts any business activities within manufacturing or any of the following TURA-covered Standard Industrial Codes (SIC), or their equivalent NAICS codes: 10 – 14, 20 – 39, 40, 44 – 51, 72, 73, 75 and 76.

### What is the Process for Designating a Chemical?

To designate a chemical as a higher hazard or lower hazard substance:

- The SAB reviews the scientific data for chemicals, initially those on SAB's more and less hazardous lists, and recommends substances to TURI for the appropriate designation.
- TURI, with input from the Office of Technical Assistance and Technology and the Department of Environmental Protection, prepares a policy analysis for each chemical and recommends designations for Administrative Council consideration.
- Throughout its assessments, the Council solicits comments from its advisory committee, the public, and program stakeholders, including industry representatives, who may be affected by the designations. A formal comment period is held prior to promulgation.
- The Council deliberates on the TURI and SAB recommendation and votes whether to designate the chemical as a higher or lower hazard substance.
- Companies subject to the new requirements are required to begin tracking the use of these chemicals in the calendar year after the designation is promulgated in regulation 301 CMR 41.00.

### **What are Designations Based Upon?**

For all deliberations, the SAB reviews objective scientific hazard data regarding the substances in question. The SAB uses screening endpoints in the areas of human health, environment, safety, and chemical persistence/bioaccumulation as a framework for deliberations. The SAB then uses an expert judgment method adapted from the Delphi Method for reaching consensus among the SAB experts. The Delphi Method is appropriate when there are data gaps or when evaluation models require subjective inputs. Each chemical is considered for its overall potential impact, not only for a particular endpoint.

### **What Chemicals has the SAB Recommended for Designation?**

To date, the SAB has recommended that 11 substances be considered for designation as higher hazard substances: cyanide compounds, ethylene oxide, nickel compounds, chlorine, arsenic compounds, cadmium compounds, formaldehyde, benzene, trichloroethylene, perchloroethylene, and hydrogen cyanide. The SAB also has recommended 11 substances to be considered for designation as lower hazard substances: n-butyl alcohol, sec-butyl alcohol, ethylene glycol, methanol, silver in alloy form, zinc in alloy form, acetone, acetic acid (>12% concentration), isobutyl alcohol, methyl ethyl ketone, ethyl acetate.

### **Are Higher Hazard Chemicals the “Most Toxic”?**

No. Recommended higher hazard substances are not necessarily those with the highest carcinogenicity or individual toxicity values. Recommended chemicals are those that SAB members, using expert judgment and available data, consider to be the best candidates for higher hazard designation based on the overall inherent toxicity, environmental and safety hazards they present. It is important to note that the SAB is not charged with looking at issues beyond hazard, such as quantities used in the Commonwealth and/or exposure. TURI, however, in its policy analysis considers issues regarding the use of the chemicals before making its recommendations to the Council.

### **What Happens to Chemicals Designated as Lower Hazard?**

A lower hazard substance designation does not mean that a chemical is not hazardous. It means it is considered less hazardous than other TURA-listed chemicals. Users of lower hazard substances do not have to pay the per-chemical toxics use fee for the substance but must continue to submit annual toxics use reports and prepare toxics use reduction plans.

### **What Designations Have Taken Effect and/or are Pending?**

The Administrative Council has designated trichloroethylene, cadmium, and cadmium compounds as higher hazard substances in 301 CMR 41.00 promulgated on December 28, 2007. Therefore, facilities that use 1,000 pounds or more of these substances in calendar year 2008 (and have 10 or more FTEs and operate within TURA-covered SIC codes) must track their 2008 use and submit a toxics use reports to MassDEP by July 1, 2009. The Administrative Council has voted to designate isobutyl alcohol, sec-butyl alcohol, and n-butyl alcohol as lower hazard substances. The Council expects to promulgate regulations by the end of 2008 to make these designations effective for calendar year 2009 (if this occurs, facilities that use these substances in 2009 would not pay toxics use fees for these substances when they submit toxics use reports by July 1, 2010).

### **For Additional Information**

Up-to-date information about the TURA program is available from the Office of Technical Assistance and Technology: <http://www.mass.gov/envir/ota>, MassDEP: <http://www.mass.gov/dep/toxics/toxicsus.htm>, and the Toxics Use Reduction Institute: <http://www.turi.org>.

The Administrative Council sets toxics use reduction policy in the Commonwealth. In this role, the Council reviews proposed regulations to protect the health and safety of workers and the public at large and promotes increased coordination in the enforcement of toxics reduction laws statewide. The Council also promotes the competitive position of Commonwealth businesses by advancing innovation in toxics use reduction and management.

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